

## In the Claims

### **Canceled Claims**

Please cancel claims 2 through 6, without prejudice.

### **Amended Claims**

1. (amended) A refrigeration process comprising the steps of:  
compressing a lower temperature, lower pressure vapor refrigerant to a higher temperature, and higher pressure vapor refrigerant,  
condensing the higher temperature, higher pressure vapor refrigerant into a liquid refrigerant at the higher pressure,  
~~thermally-isolating the liquid pressure liquid;~~  
evaporatively cooling the ~~thermally-isolated~~ liquid refrigerant ~~while the thermally-isolated liquid refrigerant remains thermally-isolated~~ under adiabatic conditions to form a cooled liquid refrigerant,  
powering an engine with ~~the~~ a pressure difference between the ~~thermally-isolated~~ liquid refrigerant and the lower pressure vapor refrigerant, and  
transferring a quantity of heat form a substance to the cooled liquid refrigerant to cool the substance and convert the cooled liquid refrigerant into the lower temperature, lower pressure vapor refrigerant then allowing thermal contact of the remaining low temperature and pressure liquid and the cooled substance causing the low temperature and pressure liquid to further reversibly boil to a vapor at the low pressure.

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

1 7.(new) A refrigeration system comprising:

2 at least one compressor for compressing a lower pressure, lower temperature vapor  
3 refrigerant into a higher pressure, higher temperature vapor refrigerant,

4 at least one condenser for condensing the higher pressure, higher temperature vapor  
5 refrigerant into a liquid refrigerant at the higher pressure,

6 at least one cooling vessel adapted to cool the liquid refrigerant, under thermally  
7 isolated, adiabatic conditions, to form a cooled liquid refrigerant having a lower temperature,

8 an engine adapted to be powered by a pressure difference between the liquid  
9 refrigerant and the lower pressure, lower temperature vapor refrigerant, and

10 at least one evaporator adapted to bring the cooled liquid refrigerant and a substance  
11 into thermal contact cooling the substance and forming the lower pressure, lower temperature  
12 vapor refrigerant.

1 8.(new) The system of claim 7, wherein the cooling vessel includes a liner of low  
2 thermal conductivity adapted to thermally isolate the liquid refrigerant so that the liquid  
3 refrigerant is evaporatively cooled under adiabatic conditions.

1 9.(new) A refrigeration system comprising:

2 a compressor adapted to compress a lower pressure, lower temperature vapor  
3 refrigerant into a higher pressure, higher temperature vapor refrigerant,

4 a condenser adapted to condense the higher pressure, higher temperature vapor  
5 refrigerant into a liquid refrigerant at the higher pressure,

6 a cooling evaporator system adapted to cool the liquid refrigerant, under thermally  
7 isolated, adiabatic conditions, to form a cooled liquid refrigerant at a lower temperature and  
8 to bring the cooled liquid refrigerant into thermal contact with a substance cooling the  
9 substance and forming the lower pressure, lower temperature refrigerant, and

10 an engine adapted to be powered by a pressure difference between the liquid  
11 refrigerant and the lower pressure, lower temperature vapor refrigerant.

1 10.(new) The system of claim 9, wherein the cooling evaporator system includes cooling  
2 vessel and an evaporator.

1 11.(new) The system of claim 10, wherein the cooling vessel includes a liner of low  
2 thermal conductivity adapted to thermally isolate the liquid refrigerant so that the liquid  
3 refrigerant is evaporatively cooled under adiabatic conditions.

1 12.(new) The system of claim 9, wherein the cooling evaporator system includes a liner  
2 of low thermal conductivity adapted to thermally isolate the liquid refrigerant so that the  
3 liquid refrigerant is evaporatively cooled under adiabatic conditions.